Keynote
Project Sourcing: New models for procuring projects

Gerard Wijers
Morgan Chambers & TU Delft

Agenda

- What is the current practice?
- Fixed price versus Time&Material
- The potential of performance based contracting
- A toolkit supporting a more refined contracting strategy
- Conclusions

The current practice

- Too often simple T&M and body shipping
- Fixed price applied in the wrong situations
- Conditions in many situations not clear
- Tender processes ineffective

PMBOK
Project Management Body of Knowledge

- Contract type selection. Contracts generally fall into one of three broad categories:
  - **Fixed price or lump sum contracts**
    - this category of contract involves a fixed total price for a well-defined product. To the extent that the product is not well-defined, both the buyer and seller are at risk—the buyer may not receive the desired product or the seller may need to incur additional costs in order to provide it. Fixed price contracts may also include incentives for meeting or exceeding selected project objectives such as schedule targets.
  - **Cost reimbursable contracts**
    - this category of contract involves payment (reimbursement) to the seller for its actual costs. Costs are usually classified as direct costs or indirect costs. Direct costs are costs incurred for the exclusive benefit of the project (e.g., salaries of full-time project staff). Indirect costs, also called overhead costs, are costs allocated to the project by the performing organization as a cost of doing business (e.g., salaries of corporate executives). Indirect costs are usually calculated as a percentage of direct costs. Cost reimbursable contracts often include incentives for meeting or exceeding selected project objectives such as schedule targets or total cost.
  - **Unit price contracts**
    - the seller is paid a preset amount per unit of service (e.g., $70 per hour for professional services or $1.08 per cubic yard of earth removed), and the total value of the contract is a function of the quantities needed to complete the work.

Characteristics of Time & Material models (1)

- Advantages of Time & Material models
  - Flexibility
  - Transparency
  - The risk to the client is less because of the "small" size of these contracts (in the short term)
  - Internal learning curve

- Disadvantages of Time & Material models
  - Quality (variable quality, no guaranteed continuity)
  - The vendor has no incentive to control costs or time spent
  - No accountability with the vendor (staff)
  - Highly skilled project management skills and capabilities with the client needed

Characteristics of Time & Material models (2)

- Type of projects appropriate for Time & Material models
  - The client desires a high degree of control over the project or the day-to-day resources
  - Requirements are highly dynamic or expected to remain relatively unstable over a continued period of time
  - When it is very difficult to setup requirements
  - For specific tasks (e.g. design, but also research projects), when the final outcome cannot be determined
  - For minor activities, that require quick assistance

Characteristics of Fixed Price models (1)

- Advantages of Fixed Price models
  - The entire risk is borne by the vendor
  - No time is spent reviewing the vendor's spending, time, travel, etc
  - The client knows exactly what the contract will cost
  - Fixed-price models leave little room for misinterpretation

- Disadvantages of Fixed Price models
  - The vendor must include all predictable risks in the pricing so the buyer has the risk of paying more than otherwise
  - The vendor will try to keep the work strictly within the limits of the contract (no "freebies") creating inflexibility
  - A tight change management will be applied
  - Dependency on the vendor in general

Characteristics of Fixed Price models (2)

- Type of projects appropriate for Fixed Price models
  - Commercial items (e.g. hardware, software)
  - Reasonably definite functional or detailed specifications when the client can establish fair and reasonable prices at the outset, such as when
    - There is adequate price competition
    - There are reasonable price comparisons with prior purchases of the same or similar supplies or services made on a competitive basis or supported by valid cost or pricing data
    - Available cost or pricing information permits realistic estimates of the probable costs of performance
    - Performance uncertainties can be identified and reasonable estimates of their cost impact can be made, and the vendor is willing to accept a firm fixed price representing assumption of the risks involved.

The contracting spectrum

Evaluating Impact of a Risk on Major Project Objectives					
Project Objective	**Very low 0.05**	**Low 0.1**	**Moderate 0.2**	**High 0.4**	**Very high 0.8**
cost	Insignificant Cost Increase	<5% Cost Increase	5-10% Cost Increase	10-20% Cost Increase	>20% Cost Increase
schedule	Insignificant Schedule Slippage	Schedule Slippage<5%	Overall project slippage 5-10%	Overall project slippage 10-20%	Overall Project Schedule Slips >20%
Scope	Scope decrease barely noticeable	Minor Areas of Scope are affected	Major Areas of scope are affected	Scope reduction unacceptable to the client	Project end item is effectively useless
Quality	Quality degradation barely noticeable	Only very demanding applications are affected	Quality reduction requires client approval	Quality reduction unacceptable to the client	Project end item is effectively unusable

Current practice

Fixed Price | **Time & Material**

The preferred practice

Fixed Price | **Time & Material**

Performance Based

Characteristics of Performance Based models (1)

- Type of projects appropriate for Performance Based models
  - Performance Based contracting emphasizes that all aspects of an acquisition be structured around the purpose of the work to be performed as opposed to the manner in which the work is to be performed, so a well defined final state is essential
  - Performance Based contracts need to be established when there is still room for innovation to reduce total project costs
  - Sufficient scope must be defined in order for meaningful estimates to be made
  - For relatively small projects (of less than €100,000) the increase in time and cost for contract administration may not be worth the benefit in increased vendor performance

Characteristics of Performance Based models (2)

- Advantages of Performance Based models
  - The client has the opportunity to complete projects for lower costs without sacrificing quality, safety and schedule
  - Sufficient project definition exists for project budgets and deliverables to be specified with confidence
  - The goals of the client and vendor are aligned: both have a common goal (incentive) to reduce costs
  - It encourages the vendor to innovate
  - Risks are shared between the client and vendor and to the party best able to manage them
  - It gives accountability for the project as a whole rather than just an individual element

Characteristics of Performance Based models (3)

- Disadvantages of Performance Based models
  - Converting to a Performance Based contract has an initial increase in up front costs and also an increase in time and costs associated with contract administration.
  - Individuals developing the statement of work need to know what they want.
  - Good technical, schedule and cost baselines are essential for Performance Based contracting.

Some examples of Performance Based models

Diverse strategies possible in Performance Based contracting

- An approach was to reserve around 10% of the chargeable fees as a risk reward "pot". This was paid out depending on client sponsor feedback - average rating of 3 out of 10 would mean 0%; 4-6, 50%; 7-8, 75%; 9 or 10, 100%
- Another approach used on T&M projects was the concept of a target price. Any savings below the target price are shared. This counteracts the tendency on T&M work to maximise billable hours, as coming below the price has a much higher margin
- Another option was that the client paid 110%, but the last 20 to 25% was related to the degree the project had been executed in accordance with time, functionality and quality and would only be paid when that was the case

A contracting toolkit under development

Characteristics of the project/service/market at hand influencing the contracting strategy

Situational factors

e.g.: stability of req's, risk profile, size of the work, maturity of the market, ...

The Toolkit supporting the identification of the contracting strategy to be preferred, based upon the project/service characteristics

Vendor strategy

Type and number of vendors, ...

Vendor interaction model

Type of tendering Process, ...

Contracting Model & Performance Indicators

T&M, Fixed, Performance based, ...

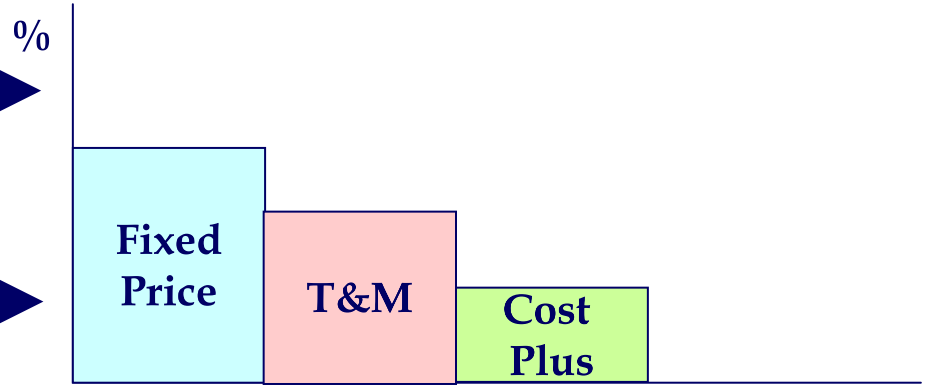
Type of output, deadline,satsifaction, ...

Predefined components of the contracting strategy

The way the toolkit works

Step 1:
Type and size of the project

Step 2:
Risk analysis



Level 1

Step 3:
Additional questions for specific contract model

Fixed Price Contracts
- Firm-Fixed-Price
- Fixed Price & Redetermination
- Fixed-Price with Adjustments
- Fixed-Price Incentive Contracts
- Fixed Price with Award Fee

Level 2

Major conclusions

- Performance based contracts create an elegant model for sharing risks and rewards between customers and vendors
- Money is an underestimated means to manage third parties
- A substantial part of the payments can be made dependent on performance

Thank you!